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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

VERSTEEG, STEVEN H

ART UNIT	PAPER NUMBER
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1753

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DATE MAILED: 04/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/976,082

Applicant(s)

KAO, CHUNG-EN

Examiner

Steven H VerSteeg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-5 and 7-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5 and 7-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 12 February 2003 is: a) ☐ approved b) ☒ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on February 12, 2003 have been disapproved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: **D** (see Figure 1), **P** (see Figure 1), and **21** (See Figure 2). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The use of the trademark ENDURA has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 3 and 15 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 3 depends from canceled claim 2 and is therefore indefinite.

7. Claim 15 is out of scope with claim 10 from which it depends. Claim 10 requires the wafer lifter body to be aluminum or stainless steel. Claim 15 requires the material to have a rigidity of at least that of aluminum. Claim 15 is therefore out of scope because claim 15 is broader than claim 10.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1, 4, 5, and 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,958,198 to Banholzer et al. (Banholzer) in view of US 5,114,556 to Lamont, Jr.

10. For claim 1, Applicant requires a wafer lifter for self-centering a wafer on a pedestal comprising a lifter body of annular shape having a center cavity with a diameter larger than the diameter of a wafer and fabricated of a material that has a rigidity of at least that of aluminum; at least four support fingers emanating upwardly from the lifter body and spaced-apart from each other; and a platform on a top portion of each support finger defined by a slanted surface from a vertical plane of an outside surface of the support finger. The platform leaves substantially no gap between the slanted surfaces and the outer periphery of the wafer.

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11. For claim 10, Applicant requires a method for self-centering a wafer on a wafer pedestal comprising: providing a wafer lifter comprising a lifter body of annular shape having a center cavity with a diameter larger than a diameter of the pedestal and fabricated with aluminum or stainless steel; at least four support fingers; and a platform on a tip portion of the fingers defined by a slanted surface from a vertical plane of an outside surface of the finger such that there is substantially no gap between the slanted surface and the outer periphery of a wafer; positioning a wafer on the lifter; and lifting the wafer lifter to position over the wafer pedestal.

12. Banholzer discloses and a method for placing the substrate on the pedestal and has a wafer support ring 52 and wafer lifters (col. 5, l. 26-28) comprising a lifter body of annular shape having a center cavity with a diameter larger than the diameter of the wafer pedestal (Figure 5); four support fingers 56; and platform 54 defined by slanted surfaces from a vertical plane 66. There is substantially no gap between the slanted surface and the outer periphery of the wafer (Figure 5).

13. Banholzer, but does not disclose the material of the lift member or the material sputter deposited.

14. Lamont, Jr. discloses that to prevent contamination of a wafer during sputtering, all components within the sputter chamber should be coated with the material to be deposited (col. 11, l. 1-7). Lamont, Jr. discloses that to process a semiconductor wafer (col. 8, l. 30-40), a target of aluminum is sometimes used (col. 7, l. 29-34).

15. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Banholzer to utilize aluminum as the target material to sputter deposit it onto the wafer because of the desire to process a semiconductor substrate.

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16. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Banholzer to use aluminum as the material for the lift body because of the desire to prevent contamination when sputtering aluminum.

17. For claim 4, Applicant requires the fingers to be equally spaced apart. As can be seen from Figure 5, the fingers are equally spaced apart.

18. For claim 5, Applicant requires the gap between the platform and wafer to be smaller than 0.5 mm. As can be seen from Figure 5, the wafer is snug and thus, there is no gap.

19. For claims 7 and 14, Applicant requires four support fingers. As can be seen from Figure 5, there are four support fingers.

20. For claim 8, Applicant requires the support fingers to be at 90-degree angles from a horizontal plane of the lifter body. As can be seen from Figure 6, the fingers are at a 90-degree angle from the horizontal plane of the lifter body.

21. For claim 9, Applicant requires the lifter body to be ring shape. As can be seen from Figure 5, the lifter body is ring shaped.

22. For claim 11, Applicant requires lowering the fingers to place the wafer on the pedestal. As can be seen from Figure 1, the wafer lifter retracts so that the wafer rests on the pedestal.

23. For claim 13, Applicant requires the slanted surfaces to guide the wafer to the platform on the fingers. Banholzer discloses the same limitation (col. 5, l. 26-31).

24. For claim 15, Applicant requires the lifter body to be formed of a material that has a rigidity of at least that of aluminum. For claim 12, Applicant requires sputter depositing a metal layer on a top surface of the wafer. The wafer is used in a sputtering process (col. 1, l. 20-29).

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As noted above, it would have been obvious to deposit aluminum and for the lifter body to be aluminum as well.

***Response to Amendment***

25. The objection to the drawings presented in the office action mailed November 8, 2002 for items **P** and **D** stands. In addition, a new objection has been presented above necessitated by the amendment. The proposed drawing change has not been approved because it is unclear what changes Applicant is making. While there are certainly some red marks, it is unclear what Applicant means by the circles. If Applicant is attempting to delete the material, then a red line through the items would be much clearer.

26. The objection to the specification presented in the office action mailed November 8, 2002 is withdrawn, but the notification of the use of a trademark is repeated and it is suggested that Applicant make any necessary corrections to the specification.

27. The 112-second paragraph rejections presented in the office action mailed November 8, 2002 are withdrawn in light of the amendment. It is noted, however, that new rejections are presented above necessitated by Applicant's amendment.

28. The 102(b) rejection presented in the office action mailed November 8, 2002 is withdrawn in light of the amendment.

29. The 103(a) rejection of claims 12 and 15 over US 5,958,198 to Banholzer et al. (Banholzer) in view of US 5,114,556 to Lamont, Jr. presented in the office action mailed November 8, 2002 stands.

*Response to Arguments*

30. Applicant's arguments filed February 12, 2003 have been fully considered but they are not persuasive.

31. Applicant has argued that Lamont, Jr. aims at preventing contamination whereas Applicant has a different purpose. That appears to be the only argument. Applicant's has not claimed a different purpose. There is motivation to combine the references. In essence, Applicant has argued that because there is a different reason for combining the references than Applicant's invention, the invention is not obvious. On that argument, the examiner must disagree.

32. In response to applicant's argument that they do not aim to prevent contamination when sputtering aluminum, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

*Conclusion*

33. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period




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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H VerSteeg whose telephone number is (703) 305-4473. The examiner can normally be reached on Mon - Thurs (7:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X Nguyen can be reached on (703) 308-3322. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
Steven H VerSteeg  
Primary Examiner  
Art Unit 1753

shv  
April 7, 2003